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8/8/20

**Course Notes**

Project Stakeholders

* Stakeholders are the people involved in or affected by project activities
* Stakeholders include
  + the project sponsor – provides budget
  + the project manager
  + the project team – Devs, QA, BA
  + support staff – administrative members
  + customers
  + suppliers
  + opponents to the project

PM Roles in Project Management

* From Project manager perspective, three stakeholder groups are relevant
  + The product manager, the management, the project team
* PM’s responsibilities include the following:
  + Interfacing with other stakeholder groups, including end users and senior management
  + Interfacing with technology staff, including Project Leaders, system analysts, programmers, etc
  + Developing the project plan
  + Overseeing the feasibility study
  + Managing one or more projects
  + Maintaining the schedule
  + Keeping the project on budget
  + Overseeing project tracking and control

Project Management Tools

* Microsoft Project
* Jira
* Confluence
* Basecamp
* Product eev
* Asana
* One Desk

Waterfall

* Initial & Analysis – Requirements, FRS, SRS, BRD, SME, BA, PM
* Design Phase – TDD, POC Database, SME, BA, PM Architect
* Coding Phase – UI, Prog Logic, Dev, DBA, PM, Architect, BA
* Testing Phase – Test Strategy, Test Plan, Testing/QA, BA, PM
* Imp/Deployment – Go-Live/Release to PROD
* Introduced in the 1970s by Win Royce at Lockheed
* A ‘top down’ approach regardless of whether it is being used for software development or test
* Move on to the next step only after the present step is completed
* No scope for jumping backward or forward or performing two steps simultaneously
* Bugs and errors in the code are not discovered until and unless the testing stage is reached
* Each phase consists of a definite set of activities and deliverables that must be accomplished before the following phase can begin
* Lack of feasibility, difficulty in predicting actual needs for the software, the loss of intangible knowledge between phases, discouragement of team cohesion, and the tendency to not discover design flaws until the testing phase

\*Waterfall – you can only move on when one phase is over

Iterative

* Starts with an initial planning and ends with deployment with the cyclic interaction in between
* To develop a software system incrementally
* Development team receives feedback at early stages in the overall development process
* Rapid feedback from actual user
* Flexibility to address evolving requirements
* Design flaws discovered quickly
* Easy to roll-out new functionality in stages
* Higher motivation and great productivity
* Very little knowledge loss between phase

Agile Manifesto

* Individuals and interactions over processes and tools
* Working software over comprehensive documentation
* Customer collaboration over contract negotiation
* Responding to change over following a plan

Types of Agile

* Lean
* Crystal
* FDD
* XP
* Scrum
* TDD,DSDM

Agile

* A group of software development methodologies based on iterative development
* Break tasks into small increments and short time frames (“sprints”) that typically last from one to four weeks
* Customer is more actively involved and get higher priority
* Customer is assured of receiving some functionality by a fixed time period
* More emphasis is on developing the application only and not on documentation
* Simple and minimal documents are used to exchange the views

Scrum Artifacts

* Product backlog
  + Wish-list/a list of features to be implemented/explorations of feature
  + Contains User Stories/Use Case, Defaults, SCRs.
  + A living document – updated and prioritized by Product Owner
* Sprint Backlog
  + Features selected from Product Backlog
  + Feature to be implemented in current Sprint
  + A living document – updated on a daily base

Burndown Chart

* Graph representation of work done and left to be done in the Sprint
* Visibility of work states/progress and update every day
* Transparency about the current performances

Scrum Roles

* Product Owner
  + A representative from the Business/Client
  + Creates and prioritize product backlog
  + Manages releases, describes features to the team
* Scrum Master
  + Responsible for team to follow Scrum/Agile values
  + Runs Sprint Planning & Daily Scrum Meetings
  + Ensures team productivity & efficient communication
  + Guards the Scrum team and removes impediments
* Scrum Team
  + Estimate and implement features
  + Sprint Backlog → Shippable products
  + Track work progress everyday – Daily Scrum Meeting (Daily Stand Up)
  + Communicate with product owner/scrum master/leads & alert when there are problems

Scrum Ceremonies

* Sprint Planning Meeting
  + Selection, discussion & estimation of features from Product Backlog for current sprint
  + PO describes the details of features & answers questions
  + Team estimates & commits to the feature
  + Usually scheduled for 2 hours
  + Usually between Tuesday-Thursday
* Daily Stand Up/Scrum Meeting
  + Status of work progress meeting – Same time, same place, everyday for 10-15 minutes, stand-up, no problem solving
  + Each team member answers 3 questions
    - What have I done? – Status/Progress since yesterday/Last meeting
    - What am I going to do? – What’s in queue for today/next meeting
    - What problems do I have? – Anything I need to accomplish my tasks, dependencies on another team/member
  + Issues/concerns recorded by Scrum Master & handled after the meeting
  + Stakeholders are invited to observe but can’t talk – ‘pigs can talk’
* Sprint Review Meeting
  + Demonstration of implemented features/defect fixes
  + ‘Demo’ to Stakeholders/Business – done after each sprint
* Sprint Retrospective Meeting
  + Discussion of goods and bads of the sprint
  + Constructive criticism – people, relationship, process & tools
  + What went well, what didn’t & areas of improvement
  + Actionable suggestions to improve performance
  + Hosted & moderated by Scrum Master
  + Meeting time-based to 1-2 hours

QA Role in Agile

* Continuously study & review all project documentations
* Attend various Project/Scrum Meetings & keep QA Team informed
* Capture complex and negative behaviors on AUT, think beyond the ‘happy path’
* Write TC, create TS, clarify questions/concerns with PO/PM/BA/DEV/SME
* Pair up with developers for reproducing Defects, writing Unit Test cases and for discussing QA Test scenarios
* Perform Negative, Boundary & Smoke/Ad-Hoc Testing formally/informally
* Be available & Flexible in providing immediate support to Devs on retesting Defect fixes & run Regression Test Cases/Scripts/Suites
* Stay focused and informed of new User Stories, Defect Status, Test Deliverables
* Maintain the criteria for DoD and improve quality of AUT
* Maintain all test Artifacts – Test Strategy, Test Plan, RTM, TC, Minutes, etc

\*DoD – Definition of done